



AGROMETEOROLOGICAL BULLETIN

*May 2014
2nd 10-day period*

- Temperature
- Relative Humidity
- Soil Temperature
- Sunshine Duration
- Precipitation
- Evaporation
- Growing Degrees
- Reference Evapotranspiration
- Accumulated Rainfall from the beginning of wet period
- Accumulated Reference Evapotranspiration
- Number of dry days



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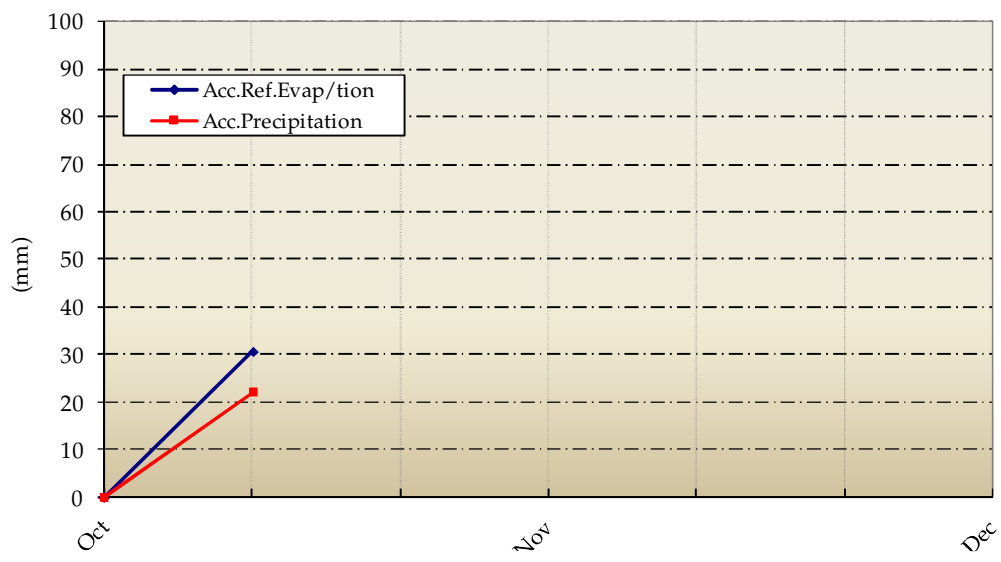
Agrinio

2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max													
	Min													
Relative Humidity	Max													
	Min													
Soil Temperature at 10 cm	06 UTC													
	12 UTC													
Sunshine Duration														
Precipitation														
Evaporation														
Growing Degrees	5													
	10													

2nd 10-day period (11-20/05/2014)	Previous Year Value	Past Years Mean Value
Reference Evapotranspiration		
Precipitation - Reference Evapotranspiration		
Number of Rainy Days		
Number of Dry Days		

This station is not operated

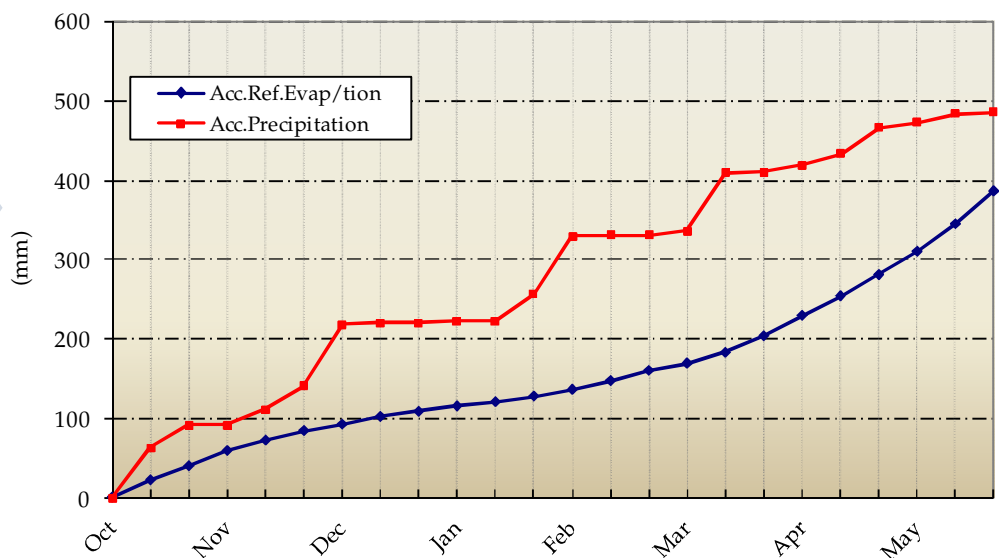
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	21.2	22.6	23.4	24.0	21.6	21.2	21.2	21.8	23.8	26.4	22.7	24.6	22.5
	Min	12.4	10.6	13.8	14.8	12.4	15.2	11.6	10.6	8.8	10.4	12.1	13.8	11.3
Relative Humidity	Max	93	97	92	94	86	90	93	92	92	85	91	87	-
	Min	58	51	51	48	41	43	49	56	30	27	45	50	-
Soil Temperature at 10 cm	06 UTC	16.4	17.4	18.8	20.0	19.0	20.2	19.4	19.4	19.0	20.0	19.0	21.0	17.0
	12 UTC	21.6	22.0	24.8	23.6	23.4	24.0	23.6	23.4	24.4	24.6	23.5	24.5	21.2
Sunshine Duration		10.1	8.1	9.2	6.4	11.3	11.4	12.0	12.0	12.3	10.8	10.4	9.7	8.2
Precipitation		3.0			0.0							3.0	0.3	10.7
Evaporation		4.9	4.8	6.9	6.0	7.5	6.7	3.8	6.3	6.4	6.5	59.8	56.7	57.1
Growing Degrees	5	11.8	11.6	13.6	14.4	12.0	13.2	11.4	11.2	11.3	13.4	123.9	142.3	118.8
	10	6.8	6.6	8.6	9.4	7.0	8.2	6.4	6.2	6.3	8.4	73.9	92.3	68.8

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	41.6	40.6	40.4
Precipitation - Reference Evapotranspiration	-38.6	-40.3	-29.7
Number of Rainy Days	1.0	1.0	2.3
Number of Dry Days	0.0	21.0	-

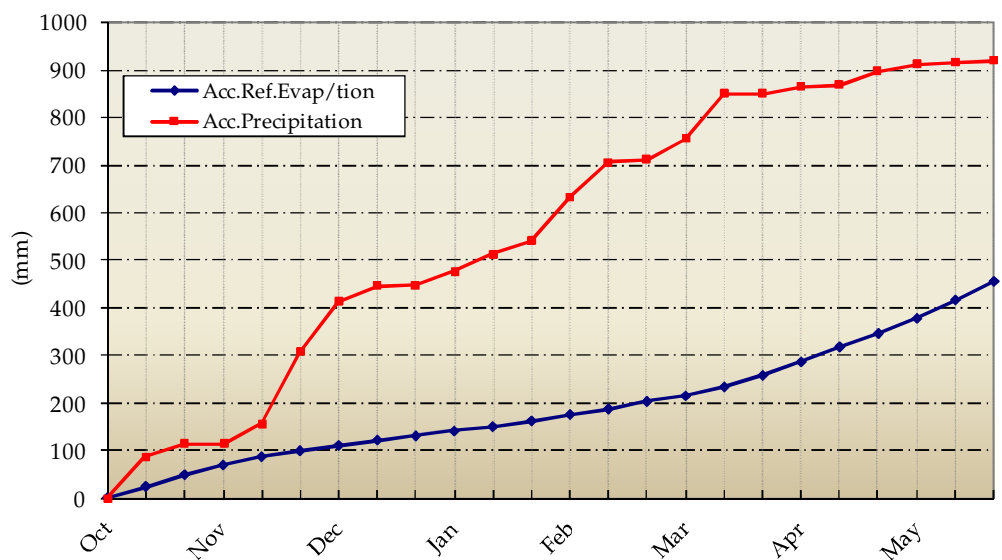
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	24.1	23.0	24.4	23.8	20.1	18.6	20.9	21.6	20.4	25.1	22.2	26.0	23.9
	Min	13.6	14.0	14.5	15.6	13.4	10.6	10.0	10.5	13.2	14.8	13.0	15.4	12.7
Relative Humidity	Max	90	90	89	75	81	84	89	90	89	86	86	85	-
	Min	36	48	54	34	43	45	45	39	59	41	44	42	-
Soil Temperature at 10 cm	06 UTC	18.6	19.2	19.2	19.8	19.0	19.0	17.4	16.4	18.2	18.2	18.5	21.4	19.3
	12 UTC	23.4	22.4	23.2	23.2	23.0	23.0	21.2	23.6	20.2	25.8	22.9	25.4	23.6
Sunshine Duration		11.5	7.0	10.1	9.7	9.3	7.1	8.9	9.3	0.1	8.7	8.2	8.9	9.4
Precipitation						0.0	3.9			0.2		4.1	0.7	8.3
Evaporation		5.9	3.7	6.7	7.2	2.5	-	2.7	3.2	6.3	4.2	-	59.2	54.3
Growing Degrees	5	13.9	13.5	14.5	14.7	11.8	9.6	10.5	11.1	11.8	15.0	126.1	157.0	133.2
	10	8.9	8.5	9.5	9.7	6.8	4.6	5.5	6.1	6.8	10.0	76.1	107.0	83.2

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	39.2	44.6	39.7
Precipitation - Reference Evapotranspiration	-35.1	-43.9	-31.4
Number of Rainy Days	2.0	1.0	1.6
Number of Dry Days	11.0	5.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

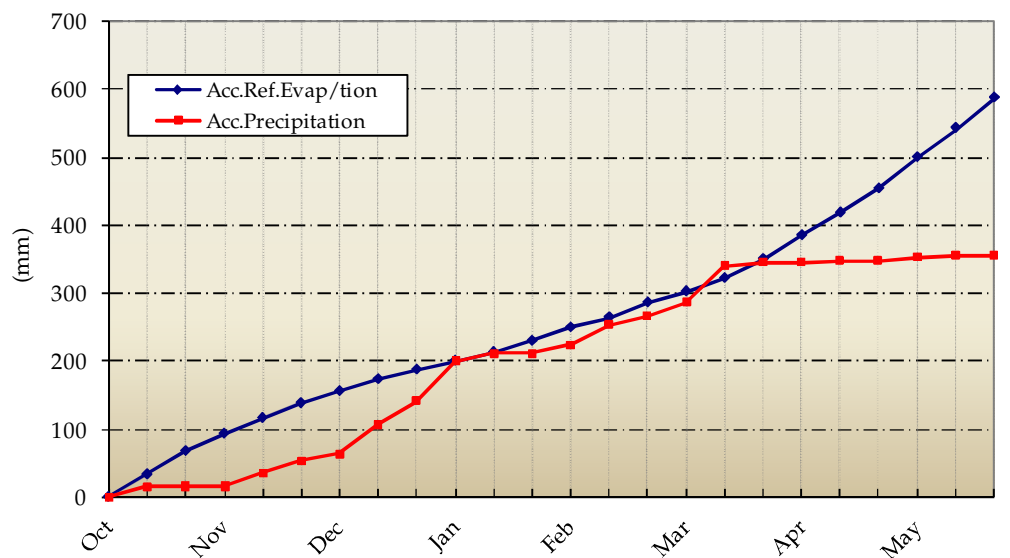


Iraklio

2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.5	24.5	24.0	34.0	24.0	21.6	21.5	23.0	22.0	23.0	24.0	26.9	23.1
	Min	14.4	14.4	16.4	18.6	16.8	15.0	13.0	13.0	16.0	16.4	15.4	18.0	15.3
Relative Humidity	Max	92	78	80	83	72	85	82	88	89	89	84	81	-
	Min	66	52	58	24	48	53	57	61	65	67	55	46	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunshine Duration		12.1	10.7	12.6	11.3	12.8	11.9	10.3	5.5	0.0	10.9	9.8	9.1	9.7
Precipitation									0.0	0.0		0.0	3.9	3.5
Evaporation		2.1	4.4	4.2	11.9	4.1	4.6	4.9	1.7	2.0	4.1	44.0	65.8	61.2
Growing Degrees	5	13.5	14.5	15.2	21.3	15.4	13.3	12.3	13.0	14.0	14.7	147.1	174.4	142.0
	10	8.5	9.5	10.2	16.3	10.4	8.3	7.3	8.0	9.0	9.7	97.1	124.4	92.0

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	44.9	51.4	-
Precipitation - Reference Evapotranspiration	-44.9	-47.5	3.5
Number of Rainy Days	0.0	3.0	0.9
Number of Dry Days	15.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

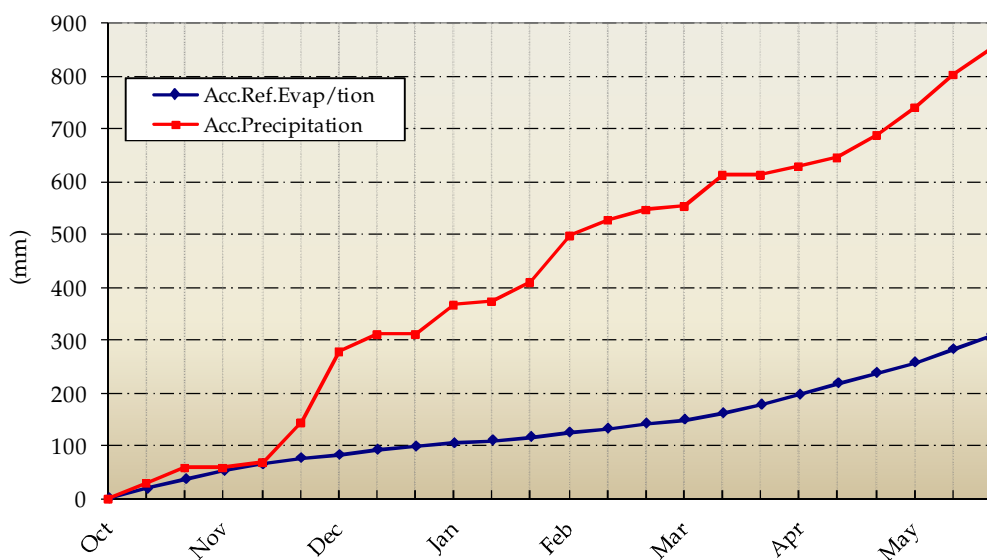


Ioannina

2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	22.8	22.6	23.4	17.8	13.2	15.6	15.1	19.0	20.7	25.2	19.5	24.3	22.8
	Min	8.2	8.4	12.3	15.0	9.2	8.4	8.4	7.2	8.9	12.0	9.8	11.6	10.0
Relative Humidity	Max	87	94	87	88	90	94	100	100	100	90	93	85	-
	Min	46	44	50	48	67	65	68	57	44	53	54	38	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	-	15.6
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	19.5
Sunshine Duration		9.0	5.4	4.0	5.8	3.6	4.0	0.8	9.6	3.7	8.0	5.4	7.7	7.2
Precipitation				2.2	31.2	2.0	1.6	11.7			1.1	49.8	18.1	19.6
Evaporation		-	-	-	-	-	-	-	-	-	-	-	-	40.9
Growing Degrees	5	10.5	10.5	12.9	11.4	6.2	7.0	6.8	8.1	9.8	13.6	96.7	129.7	113.3
	10	5.5	5.5	7.9	6.4	1.2	2.0	1.8	3.1	4.8	8.6	46.7	79.7	63.4

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	27.6	38.2	34.9
Precipitation - Reference Evapotranspiration	22.2	-20.1	-15.3
Number of Rainy Days	6.0	4.0	3.4
Number of Dry Days	2.0	1.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

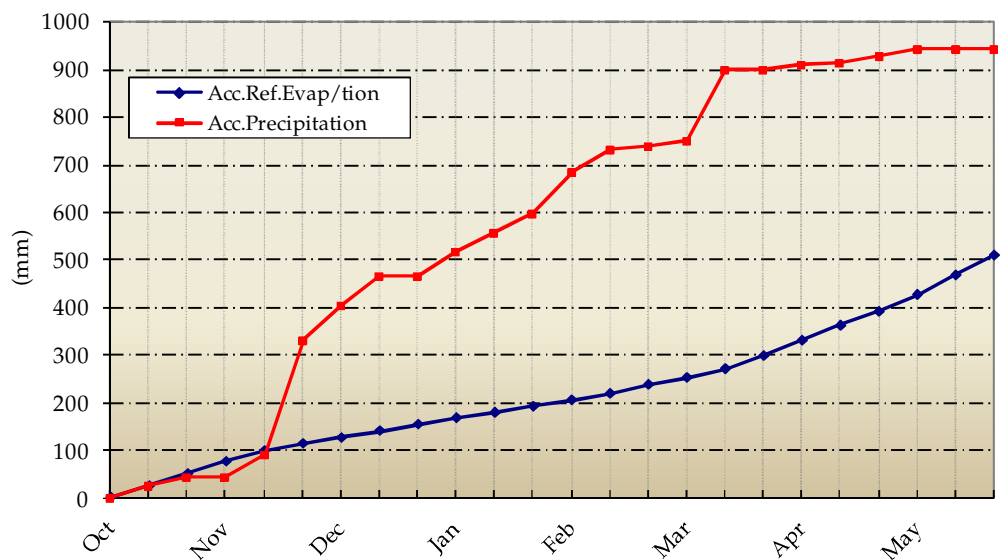


Kalamata

2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	25.0	25.5	23.6	25.9	21.7	21.7	23.4	22.9	23.4	24.2	23.7	25.9	24.3
	Min	10.8	10.3	12.0	16.1	10.5	7.8	7.0	9.8	13.2	14.8	11.2	14.1	12.1
Relative Humidity	Max	94	93	94	92	90	93	93	92	93	92	93	90	-
	Min	42	28	51	35	35	37	36	39	58	52	41	44	-
Soil Temperature at 10 cm	06 UTC	18.8	19.0	19.4	20.4	19.8	18.8	18.0	18.0	18.6	18.6	18.9	19.6	18.7
	12 UTC	21.8	20.8	21.0	21.8	22.0	20.8	19.6	20.0	19.2	21.0	20.8	21.6	22.5
Sunshine Duration		11.8	9.4	11.2	9.7	11.4	8.9	10.5	4.6	0.5	10.2	8.8	8.4	9.1
Precipitation						0.1				1.3		1.4	2.6	9.5
Evaporation		-	-	-	-	-	-	-	-	-	-	-	53.7	57.5
Growing Degrees	5	12.9	12.9	12.8	16.0	11.1	9.8	10.2	11.4	13.3	14.5	124.8	150.0	132.1
	10	7.9	7.9	7.8	11.0	6.1	4.8	5.2	6.4	8.3	9.5	74.8	100.0	82.1

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	41.8	44.0	39.6
Precipitation - Reference Evapotranspiration	-40.4	-41.4	-30.1
Number of Rainy Days	2.0	3.0	1.8
Number of Dry Days	10.0	3.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

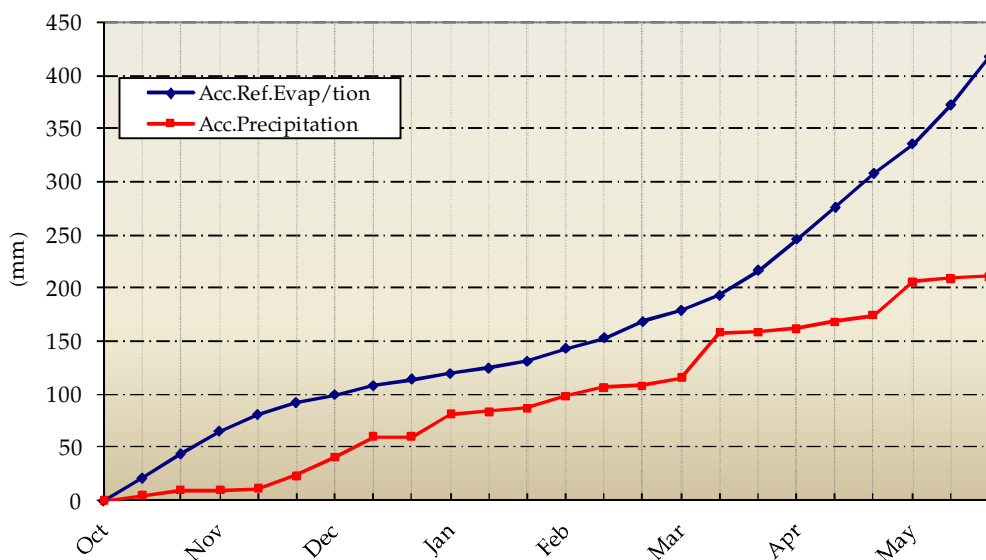


Larisa

2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	30.2	30.6	30.2	30.0	22.2	23.2	24.8	26.1	25.6	25.9	26.9	28.8	25.6
	Min	9.2	10.4	14.0	11.8	10.8	7.4	5.6	7.5	9.9	13.8	10.0	13.5	11.0
Relative Humidity	Max	96	86	94	98	75	81	85	92	90	85	88	95	-
	Min	19	21	22	18	25	22	23	21	26	23	22	27	-
Soil Temperature at 10 cm	06 UTC	-	-	-	-	-	-	-	-	-	-	-	21.4	18.1
	12 UTC	-	-	-	-	-	-	-	-	-	-	-	-	20.4
Sunshine Duration		11.3	5.5	6.2	10.8	4.1	11.9	8.0	12.1	2.3	5.0	7.7	7.9	8.3
Precipitation				0.0		0.1		1.9			0.0	2.0	26.5	11.8
Evaporation		13.6	6.8	5.0	11.7	4.1	7.8	4.1	6.4	8.9	7.0	75.4	70.2	55.6
Growing Degrees	5	14.7	15.5	17.1	15.9	11.5	10.3	10.2	11.8	12.8	14.9	134.6	161.8	133.1
	10	9.7	10.5	12.1	10.9	6.5	5.3	5.2	6.8	7.8	9.9	84.6	111.8	83.1

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	45.6	44.3	42.0
Precipitation - Reference Evapotranspiration	-43.6	-17.8	-30.2
Number of Rainy Days	2.0	5.0	2.4
Number of Dry Days	11.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration

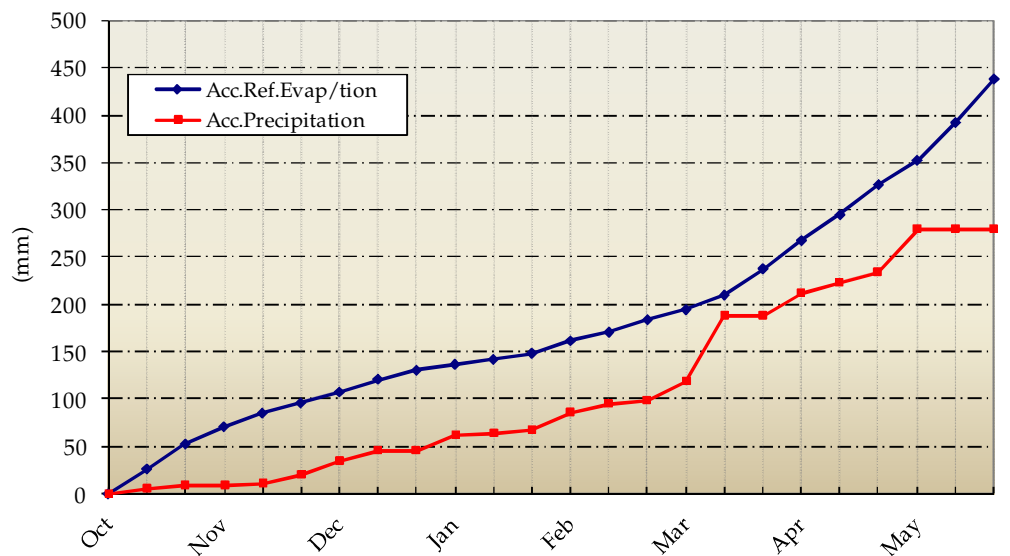


Mikra

2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	27.0	23.6	26.5	28.8	21.7	21.7	22.7	24.1	24.4	25.8	24.6	27.0	24.3
	Min	11.2	12.5	13.0	16.7	10.1	10.0	8.8	9.0	11.2	14.4	11.7	14.6	12.4
Relative Humidity	Max	83	84	90	91	78	78	84	81	79	79	83	80	-
	Min	33	50	35	26	31	29	30	25	36	23	32	35	-
Soil Temperature at 10 cm	06 UTC	19.4	20.8	20.6	21.6	19.6	18.6	18.2	18.8	19.4	20.6	19.8	22.2	18.8
	12 UTC	27.2	24.6	27.2	27.6	20.8	25.0	24.8	25.2	26.0	25.2	25.4	27.2	23.5
Sunshine Duration		12.3	7.2	10.0	6.0	9.9	6.8	10.6	13.3	9.9	6.2	9.2	8.4	8.1
Precipitation				0.0			0.0	0.0				0.0	1.6	11.8
Evaporation		5.4	5.0	4.0	8.5	7.9	4.6	8.8	5.8	6.0	7.0	63.0	65.7	56.4
Growing Degrees	5	14.1	13.1	14.8	17.8	10.9	10.9	10.8	11.6	12.8	15.1	131.6	158.0	133.6
	10	9.1	8.1	9.8	12.8	5.9	5.9	5.8	6.6	7.8	10.1	81.6	108.0	83.6

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	46.0	50.4	40.9
Precipitation - Reference Evapotranspiration	-46.0	-48.8	-29.1
Number of Rainy Days	0.0	1.0	3.0
Number of Dry Days	14.0	3.0	-

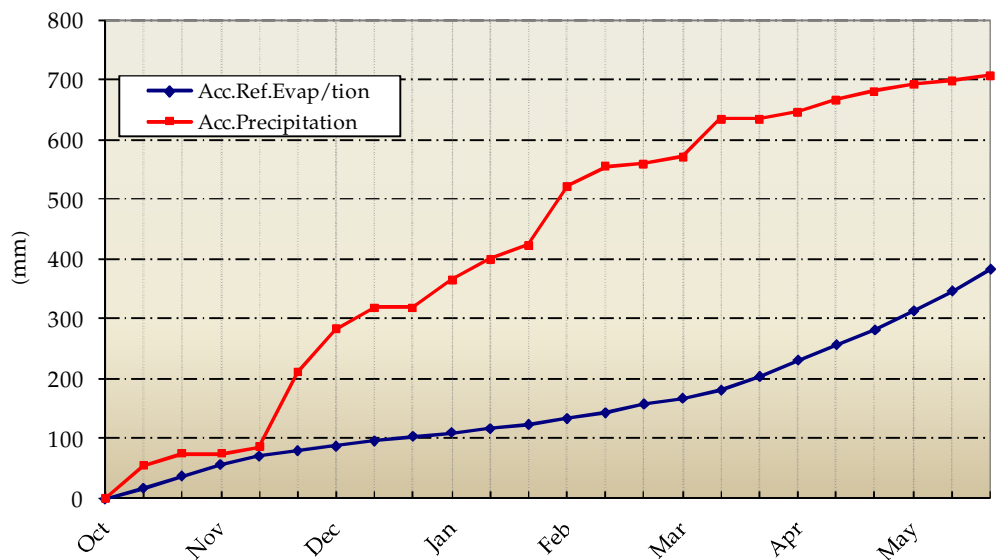
Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration



2nd 10-day period (11-20/05/2014)		11	12	13	14	15	16	17	18	19	20	Mean Value or Sum	Previous Year Value	Past Years Mean Value
Temperature	Max	23.9	23.2	32.2	22.5	16.8	16.3	18.1	19.6	13.8	22.5	20.9	25.1	22.9
	Min	5.9	5.9	7.6	12.9	10.4	7.0	2.6	4.0	8.5	9.0	7.4	9.7	8.3
Relative Humidity	Max	100	94	95	64	83	94	98	93	100	100	92	80	-
	Min	59	30	31	25	40	31	30	27	77	43	39	30	-
Soil Temperature at 10 cm	06 UTC	15.0	15.8	16.8	18.4	17.4	15.6	13.8	14.6	16.8	15.2	15.9	17.8	16.7
	12 UTC	-	22.0	23.6	24.6	19.4	20.6	-	-	17.2	19.8	21.0	24.7	19.4
Sunshine Duration		9.5	10.5	10.4	12.4	8.4	6.8	10.7	7.8	0.0	4.8	8.1	7.8	8.4
Precipitation		0.0					0.9			8.6	0.1	9.6	12.8	15.5
Evaporation		4.3	6.5	4.9	8.2	3.1	2.5	4.3	5.0	4.2	1.3	44.3	47.9	41.0
Growing Degrees	5	9.9	9.6	14.9	12.7	8.6	6.7	5.4	6.8	6.2	10.8	91.4	123.9	106.0
	10	4.9	4.6	9.9	7.7	3.6	1.7	0.4	1.8	1.2	5.8	41.4	73.9	56.0

2nd 10-day period (11-20/05/2014)		Previous Year Value	Past Years Mean Value
Reference Evapotranspiration	36.2	38.6	39.8
Precipitation - Reference Evapotranspiration	-26.6	-25.8	-24.3
Number of Rainy Days	3.0	4.0	2.8
Number of Dry Days	5.0	0.0	-

Diagram of Accumulated Precipitation and Accumulated Reference Evapotranspiration





◆ **List of Symbols and Abbreviations**

Reference Evapotranspiration ETo (mm):

Calculated by the FAO Penman-Montieth equation

$$ET_0 = \frac{0.408 * \Delta * (R_n - G) + \gamma * \frac{900}{T + 273} * u_2 * (e_s - e_a)}{\Delta + \gamma * (1 + 0.34 * u_2)}$$

using 10-day step.

R_n is estimated from sunshine measurements and G assumed to be zero.

Growing Degrees: Degrees with mean temperature exceeding the base of 5 or 10 °C.

Number of Rainy Days: Number of days with precipitation of at least 0.1 mm.

Number of Dry Days: Number of dry days recorded since the last rainy day.

Measurements Units

- ◆ Temperature : °C
- ◆ Relative Humidity : %
- ◆ Soil Temperature : °C
- ◆ Sunshine Duration : Hours
- ◆ Precipitation : mm
- ◆ Evaporation (Pan) : mm
- ◆ Growing Degrees : °C

UTC (Universal Time coordinates) in Greece

- ◆ Winter : Time(UTC) = Local time - 2
- ◆ Summer : Time(UTC) = Local time - 3

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ΕΘΝΙΚΗ
ΜΕΤΕΩΡΟΛΟΓΙΚΗ
ΥΠΗΡΕΣΙΑ

HELLENIC NATIONAL METEOROLOGICAL SERVICE

Division of Climatology-Applications

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The present bulletin was designed and implemented under the support of Water Resources Management Division of Agriculture University of Athens